STREETS, SIDEWALKS AND ALLEYS BMPS

Alley Filter

Definition

Alley filters are BMPs that can be used to serve as a filtering, or a combination of filtering and storage device, in alleyways. A filter device, such as the perimeter (Delaware) sand filter can be used to provide treatment of runoff from rooftops, backyards and alleyways. In addition subsurface storage can be achieved by coupling the filter device to an oversized pipe with a low flow control to regulate the discharge rate from the storage pipe.

Design Criteria

Criteria for the alley filters are contained in the design procedures for the filter device as provided in the Design Manual.

Grated Sidewalk Infiltration / Filtration Systems

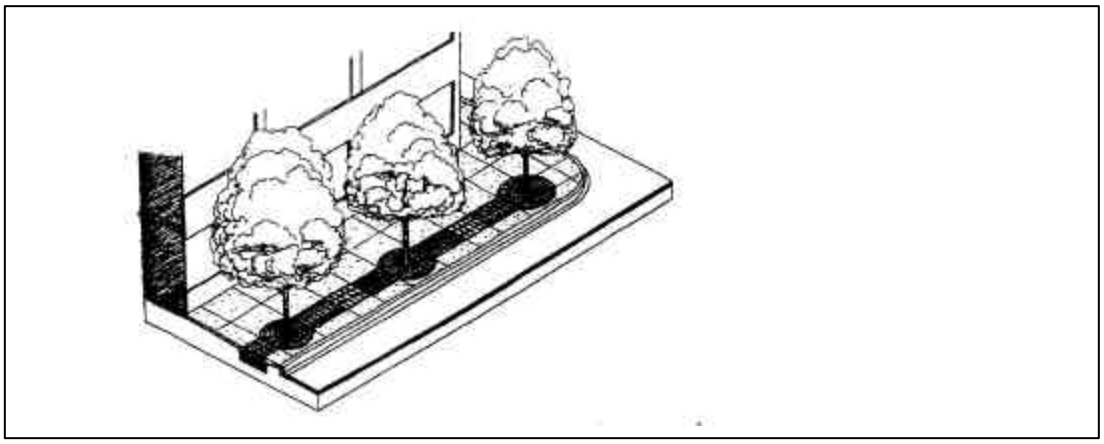
Definition

Grated sidewalk infiltration/filtration systems are typically installed to protect trees located along sidewalks or in parking areas and may be retrofitted to provide off-line stormwater management using curb cuts to divert runoff. These locations can be used in combination with a grate over an infiltration system, or over a perimeter sand filter. Grated infiltration trenches, and sand filters can also be installed over pedestrian crossings and along the periphery of parking lots. Figure 18 illustrates a typical grated sidewalk infiltration/filtration system.

Design Criteria

Grated sidewalk infiltration/filtration systems must be sized and designed following the guidelines for infiltration trenches provided in the Design Manual. Grated infiltration trenches usually receive stormwater inputs through a curb-and-gutter system or as sheet flow. Overflow may be directed to other controls or to landscaped areas. A replaceable sand or cloth filter above the in-situ soils improves long-term performance and eases maintenance. The grate must be capable of bearing the weight of pedestrians and or vehicles. In areas where pedestrian traffic is expected, the grating should be alternated with nongrated surfaces to allow safe passage. The grates should be removable to allow for maintenance.

Figure 18. Grated infiltration System



Pedestal Sidewalks

Definition

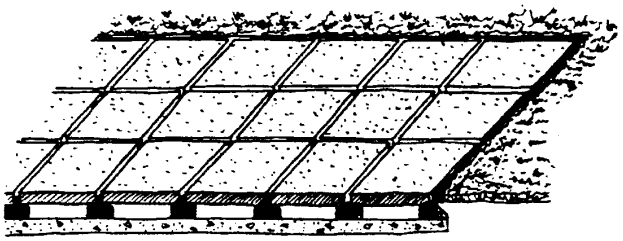
Pedestal sidewalks are a special application of modular paving. Storage can be made available under flat surfaces by using spacers to create pedestals that support paving units over the subgrade. Water infiltrates through the interstices in the paving units and fills the space underneath. The water can be slowly removed through evaporation, infiltrated into the surface soils, or directed to a sand filter device. Figure 19 illustrates a typical a typical pedestal sidewalk.

Design Criteria

If infiltration is used as part of the design, the sizing and design must follow the procedures provided in the Design Manual. Likewise if a filter device is used for the treatment the sizing and design must follow the procedures provided in the Design Manual.

The spacers should be stacked to achieve at least one inch of storage. A sufficient number of pedestals must be provided to assure that the pavers are stable. The storage space must be contained in a rigid frame to prevent the pavers from shifting. The pavers should be inspected annually to determine if removal is required to clean the storage space of sediment.

Figure 19. Pedestal Paving



Applicability

This practice can be used wherever pavers are used. The need for inspection and maintenance must be considered when implementing this BMP.